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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/513,015	02/25/2000	Robert J. Block	83000.1135;P4722/ARG	7018

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MARTINE PENILLA & GENCARELLA, LLP
710 LAKEWAY DRIVE
SUITE 200
SUNNYVALE, CA 94085

EXAMINER
PRIETO, BEATRIZ

ART UNIT	PAPER NUMBER
2142	

DATE MAILED: 08/31/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _15 June 2005_.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-5,7,8 and 17-28_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-5,7,8 and 17-28_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _6/24/03_ is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some *   c)☐ None of:

       1.☐ Certified copies of the priority documents have been received.

       2.☐ Certified copies of the priority documents have been received in Application No. _____.

       3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

1.   This communication is in Amendment filed 06/15/05, claims 1-5, 7-8 and 17-28 remain pending and have been examined.

2.   Acknowledgement is made to applicant's claimed the benefit of an earlier filing data under 35 U.S.C. §120 based on Application No. 09/063,335 abandoned as of 07/09/01.

3.   Claim terminology has been given the broadest reasonable interpretation in light of the specification (see MPEP 2111). In this case, claimed term session means a representation of services (p. 22, lines 5-11), a service is a program that provides some function to the user (p. 24, lines 9-12) or a process that provides output data and responds to user request and input (p. 19, lines 3-4), services makeup a session (p. 22, lines 15-16), wherein a service may be a proxy (p. 19, lines 17-21); claimed term token is an identifier, an address or serial number (p.22, lines 511); claimed term "self-organizing" means the exchange of messages between servers enabling servers to be aware of the servers available in the cluster or of one another (p. 13, lines 1-8).

4.   There is a strong presumption that an adequate written description of the claimed invention is present in the specification as filed, Wertheim, 541 F.2d at 262, 191 USPQ at 96; however, with respect to newly added or amended claims, applicant fails to point out support in the original disclosure for the new/amended claims. See MPEP § 714.02, and 2163.06. ("Applicant should specifically point out the support for any amendments made to the disclosure.") (see MPEP § 2163 B (II).

5.   Claims are amended/argued seems to be directed to subject matter described on page 35 of the specification. Specifically reading, *"In one embodiment*, when a server fails, the DTU detects the failure when it does not receive timely response to a "keep alive" message. *Upon failure to receive a response to the "keep alive" message, the DTU sends messages to a new server* using serverQ/serverR protocol previously described. Thus, when a server fails, the protocol allows for reconnection of all DTUs to an active server. The failed over session can resume on the new server and make use of the permanent user data coupled to all host servers in the group."

Hence, in this embodiment, it the DTU connects to second server directly when responses to inquiries that indicate its availability.

6.   Claim limitation as amended reads,

"redirecting said client unit via said first server to a second server of said plurality of servers having said most recently accessed session"...

"where redirecting is executed when said first server fails to respond to said client unit with a message, the message indicating availability of said first server, and said redirecting of said client unit to said second server...".

Presuming that the redirecting in the second limitation refers to the above mention redirection, then *redirecting said client unit via said first server to a second server* of said plurality of servers having said most recently accessed session is *executed when said first server fails* to response to said client unit with a message indicating its availability. Which seems to describe that the client is redirect via a failed server to a second server, raising some uncertainties. [As best understood] claim limitation will be interpreted as where redirecting is executed when said first server fails to respond with a message indicating its availability.

7.   Quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action may be found in previous office action.

8.   Claims 1-5, 7-8 and 17-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Narendran in view of Andresen in further view of High Availability & Scalability with Dominos Clustering and Partitioning on AIX, Sept. 1998 (IBM hereafter).

Regarding claim 1, Narendran teaches substantial features of the invention as claimed, including, a   client (col 3/lines 39-51), a first server (14) (col 3/lines 60-61) and a plurality of servers ($S,...S_N$) (col 3/lines 57-62, col 4/lines 17-19);

initiating a connection between a client unit and a first server (col 10/lines 41-44 or col 3/lines 63-64) one of said plurality of servers;

determining at said first server a location of a service ("session") on one of said plurality of servers (col 4/lines 44-55, col 6/lines 18-21 or col 15/lines 14-17); and

redirecting said client unit via said first server to a second server having said service ("session")(col 18/lines 38-42, 54-57, col 4/lines 19-21 or col 15/lines 14-25);

exchanging information between a first server and a plurality of servers (col 15/lines 35, col 16/line 5);

wherein said first and second servers can each provide said plurality of services (Narendran: abstract);

wherein said plurality of services comprise information (called "state maintenances") for a user of said client unit (Narendran: col 3/lines 49-56);

each of said plurality of sessions comprises a plurality of services requested by said client unit (Narendran: col 3/line 46-56, col 4/lines 49-52, 64-67);

wherein redirecting is executed in event of a server failure providing said service (col 12/lines 11-37 & col 12/line 58-col 13/line 10), redirecting client unit to a second server in response to a first server failure, thereby eliminating a single point of failure. The fault tolerant server system that provides redundant server having replicated services in event of failure, guarantees service availability in event of failure (see col 16/lines 36-33); however Narendran does not explicit teach where the plurality of server exchange information between themselves and continuing the services in event of a server failure, nor determining the most recently accessed session of a plurality of session on said plurality of servers;

Andersen teaches a plurality of servers exchanging information (page 3, left column paragraphs 2-3 and section 3.2 on page 3); wherein said first and second servers can each provide said plurality of services (Andersen: see sections 3.1- 3.2);

determining a most recent accessed session of a plurality of sessions on said plurality of servers, determining the location (e.g. IP address) of said most recently access session on one of said plurality of servers and redirecting client request to a second server of said plurality of servers having said most recently accessed session (Andersen: page 1, right column first paragraph); and where each session of said plurality of sessions comprise a plurality of services requested by said client (Andersen: page 1, right column 2-3rd paragraph); however the above-mentioned prior art fails to teach maintaining access to said accessed session while continuing said plurality of services to said client unit.

IBM discloses redirecting when a first server fails to respond to a client request, redirecting said client to a second server maintaining access to said accessed session while continuing said plurality of services to said client, (see fail over on introduction on p. 1, redirecting in event of server failure see section 1.3.1 on p. 4, 6, transparent fail over feature can redirect request from an unavailable server to another available server of a cluster, see section 2.1.1 on p. 10, fail over to a backup on p. 14, redundancy against a single point of failure see section 2.2.1 on p. 16, redundant servers preventing a single point of failure section 2.2.2 on p. 17);

wherein when a server fails to respond to a client's request the request is fail over to another available server (see section 3.3.3.8 on p. 64); wherein synchronized redundant component (servers) transparently take over failed components and maintain data availability (section 1.2 on p. 2);

exchanging information among the plurality of server comprising state maintenance for a user client and used for redirecting user request (section 3.3.3 on p. 59-61);

redirecting is executed when said first server fails to respond with a message indicating its availability, e.g. a response to request, where a request includes a status request, i.e. a probe or a service request (p. 60, 64, 90, 141).

It would have been obvious to one ordinary skilled in the art at the time the invention was made given the suggestion of Narendran for having a server redirect a client to an alternate server in event of failure by configuring redirecting server with the knowledge as to where the alternate servers having request service are located, to also configure all servers having this adaptive redirecting/scheduling capability as taught by IBM. (Motivation to combine Andresen with Narendran presented in previous action is incorporated by reference). Further, servers are configured with information exchange capabilities including periodically broadcasting network configuration information, awareness of the services present (i.e. leave or join the resource pool) in the network as well as their respective capabilities and current load. One ordinary skilled would be motivate to enhance Narendran's system with the scalability, fault tolerant that prevents a single point of failure in the network by providing access to services via an alternate network and single points of failure on server by providing replicas of services on server that provide a transparent fail over to an available service, providing high availability with a rapid, uncomplicated network configuration, as suggested by IBM.

Regarding claim 2, wherein said initiating comprises: said client unit broadcasting a message to a domain of server comprising said plurality of servers (Narendran: col 4/lines 10-12), and said first server responding to said message (Narendran: col 14/lines 48-51 or col 15/lines 14-25).

Regarding claim 3, said initiating is in response to a prior server failing (col 12/lines 12-65).

Regarding claim 4, said service ("session") is associated with an identifier ("token") (Narendran: col 4/lines 5-16).

Regarding claim 5, said determining of claim 1, comprises said first server sending a message to said plurality of servers, said message comprising said token (Narendran: col 6/lines 19-26 and col 15/lines 35-col 16/line 5); and said plurality of servers responding to said first server with service information associated with said identifier (Narendran: col 6/lines 19-26 and col 15/lines 35-col 16/line 5) and determining location (e.g. IP address) at said first server of said session on one of said plurality of servers

(Andresen: left column , 1st par., page 1), or where determining location further comprises receiving a message from said second server of an availability of said second server for having said session (Narendran: directory of services see col 15/lines 61-col 16/line 5).

Regarding claim 7, securing messages between said client unit and said plurality of servers (IBM: security p. 11).

Regarding claim 8, wherein said securing is performed with a keyed hash signature. Official *Notice (see MPEP § 2144.03 Reliance on "Well Known"* Prior Art) is taken that keyed hash signature was old and well known in the art. It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to include this feature because it is a common authentication scheme which employs authentication tokens to improved security system against eavesdropping, dictionary attacks, and intrusion into stored password lists.

Regarding claim 17, said information exchanged between said pluralities of servers comprises a description of an information regarding devices or the presence of devices on the network also called network configuration (i.e. network topology) of said plurality of servers (Narendran: col 6/lines 19-21).

Regarding claim 18, updating status in said network topology on a relationship between a connectivity of said client unit and said second server (IBM: topology services section 2.1. 4 on p. 12, section 3.3.3 status updates on p. 59-61).

Regarding claim 19, this limitation is substantially the same as redirecting limitation on claim 1, same rationale of rejection is applicable.

Regarding claims 20 and 23, wherein said client unit comprises a ("thin client unit" and "thin client session" and a "stateless device") i.e. a computing device (Narendran: col 3/lines 49-56).

Regarding claim 21, wherein said session comprises a service ("thin client session") that services client's request (Narendran: abstract).

Regarding. claim 22, maintaining said service "session" persistently by said plurality of servers, i.e. stored or cached (Narendran: col 4/lines 26-29).

Regarding claim 24, said determining said location at said first server of said session on one of said plurality of servers comprises receiving a message from said second server of an availability of said second server for having said session (Narendran: directory of services see col 15/lines 61-col 16/line 5).

Regarding claim 25, wherein said token can identify a plurality of sessions (Narendran: col 4/line 10-15).

Regarding claim 26, plurality of server communicates with each other to support awareness of the server available in the group or cluster (IBM: topology services section 2.1. 4 on p. 12, section 3.3.3 status updates on p. 59-61).

Regarding claim 27, pluralities of server are distributed (IBM: distributed redundant servers (i.e. no master) for implementing failover in event of a server failure (i.e. eliminating a single point of failure) section 2.2.2 on p. 17).

9.   Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Narendran-Andresen in view of IBM in further view of DEAN et. al. U.S. Patent No. 6,023,762 (Dean hereafter).

Regarding claim 28, comprises limitations substantially the same as claim 1, same rationale of rejection is applicable,

exchange information (e.g. load and/or availability) between a pluralities of servers via a process (called self-discovery) enabling the awareness of each other in the resource pool of server (IBM: topology awareness services section 2.1. 4 on p. 12, section 3.3.3 status updates on p. 59-61);

determining at a first server of a plurality of server, a most recently accessed session of a plurality of session provided by a plurality of server and redirecting a client request via said first server to a second server of said plurality of server having determined most recently accessed session (Andresen: page 1, right column first paragraph);

although prior art teaches establishing a connection between a client unit and any one of said plurality of servers for sending a request and receiving a response thereto including determining a most recently accessed session and redirecting said client unit to said most recently accessed session, Andersen does not teach relating, correlating or mapping a plurality of services with a token associated with a client's unit.

Dean teaches a system/method related to networked computer systems as shown in Fig. 1, including a client unit (108) sending over an established connection a request for a plurality of services

("sessions") on a plurality of services providers (106) ("servers") (col 3/lines 37-43, col Mines 59-67) by inserting a ("token") smart card (110) in said client unit (col Mines 45-55, col 7/lines 1-21, 62-67);

directing said client unit at a first server (107 of Fig. 2), said first server including a data storage means for identifying a plurality of session types associated with said token which the user of the client unit has access to (col 2/lines 8-12, 24-42, col 5/lines 40-47) using stored information on table 401 (col 8/lines 30-32, 42-50, 58-61, col 9/lines 1-10, 47-61);

It would have been obvious at the time the invention was made given the suggestion of Andersen for making services available in a multiple server computing environment efficiently including disclosed distributing techniques for redirecting client's request adaptively to the changes in the network configuration including the distribution of the scheduling means to overcome the disadvantages of prior art system to consider Dean's teachings for distributing client's request to multiple servers in a secure manner. Motivation to combine the teachings of Dean with Andersen will be complement Andersen first/redirecting server configured with proxy functionalities configure with either redirection or forwarding techniques, with the proxy functionalities of the redirecting agent in the Dean system both making services available in a multiple server computing environment. One would be motivated to implement these components for accessing a plurality of sessions on a plurality of servers for accessing corporate wide area network or Intranet services behind a proxy exemplified by Andersen as a firewall to protect said plurality of sessions on said plurality of server from unauthorized users whose authentication is augmented by smart card technology.

Response to Arguments

10.   Regarding claims 1-5, 7-8 and 17-27 are rejected under 103 as being unpatentable over Narendran in view of Andresen in further IBM it is argued prior does not teach claim limitation as amended (added). Specifically, where the failure of the first server to respond *with a message indicating its availability*.

In response to the above-mentioned argument, applicant's interpretation of the applied prior has been fully considered. However, the breadth of the claim clause "a message indicating availability" does not exclude a response to a service, because this is a message that indicates the server availability, the clause does not further exclude the response to a probe, because the response indicates server availability.

IBM teaches users request are redirected to the best available server when a first server becomes unavailable (p. 1), where a server's availability is determined using probes (p. 60), redirecting a clients request when the server fails to respond to a service request (p. 64), probes are used to determine server are available, i.e. responding to clients request (p. 90), message indicating availability (141).

11.   Applicant's arguments have been fully considered but not rendered persuasive.

Pertinent Prior Art

12.   The following prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Copies of Non-Patent Literature documents cited will be provided as set forth in MPEP § 707.05(a):

> US 6,199,110 (03-2001)
>
> Rizvi et. al. Teaches passing a client from a first server to which the client was connected for accessing resources to a second server for accessing the resources, while executing the first server ceases to respond to the client, after the client detects that the first server has ceases to respond to the client, the client automatically connects with the second server, the server failing to respond for a predetermined amount of time. When the servers stops responding to clients interface requests, client assumes the server has failed and proceeds to execute an automatic failover.

13.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

14.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Prieto, B. whose telephone number is (571) 272-3902. The Examiner can normally be reached on Monday-Friday from 6:00 to 3:30 p.m. If attempts to reach the examiner by telephone are unsuccessful, the Examiner's Supervisor, Andrew T. Caldwell can be reached at (571) 272-3868. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3800/4700.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system, status information for published application may be obtained from either Private or Public PAIR, for unpublished application Private PAIR only (see http://pair-direct.uspto.gov or the Electronic Business Center at 866-217-9197 (toll-free).

Any response to this action should be mailed to:
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Faxed to the Central Fax Office:
                (703) 872-9306 (old No. in service until Sept. 15, 2005),
                (571) 273-8300 (New Central Fax No.)

        Or Telephone:

                (703) 306-5631 for TC 2100 Customer Service Office.

BEATRIZ PRIETO
PRIMARY EXAM"
August 29, 2005